Ubicazione del Progetto:
Project Location:

13 03 - DATA 4 ITALY - CORNAREDO/SETTIMO M.SE

Supervisore delegato del committente:
Project management design & building:

GIS.IMO S.r.l.
centro direzionale quattrotorri
06132 PERUGIA
tel.: +39 075 517 29 83 fax: +39 075 518 12 88

Assistente del committente:
Owner technical assistance:

Progetto architettonico:
Architectural project:

GARRETTI ASSOCIATI S.r.l.
via Trieste, 9 - 20146 MILANO
tel.: +39 02 430 6931 fax: +39 02 480 170 51
www.garrettiassociati.it

Opere edili e prefabbricati:
Civil and Precast works:

GARRETTI ASSOCIATI S.r.l.
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tel.: +39 02 430 6931 fax: +39 02 480 170 51
www.garrettiassociati.it

Impianti meccanici:
Mechanical services:

GENERALE PREFABBRICATI S.p.a.
centro direzionale quattrotorri
Ellera Scalo - 06132 PERUGIA
tel.: +39 075 51 871 fax: +39 075 51 71 145
www.generaleprefabbricatispa.com

Impianti elettrici e speciali:
Electrical and Extra Low Voltage Services:

OMEGA CONCEPT IMPIANTI E SISTEMI S.p.A.
Strada 6, snc - Palazzo A11 - 20057 ASSAGO
tel.: +39 02 8180951
e-mail: omega.direzione.axima@equans.com

ENGIE SERVIZI S.p.A.
via G. Ribotta 31
00144 Roma

VERTIV
Via Leonardo Da Vinci, 16-18
35 028 Piove di Sacco (PD)

SCHNEIDER ELECTRIC S.p.A.
Via Circonvallazione Est, 1 - 24040 STEZZANO (BG)
tel.: +39 0354151111 fax: +39 0354153200
www.schneider-electric.com

ENERIA
Rue de Longpont - BP 10202 - 91311 MONTLHERY Cedex - FRANCE
tel.: +33 (0) 169802100 fax: +33 (0) 169802150
www.eneria.fr

Progettazione antincendio:
Fire prevention design:

APILOG
3 Rue Galvani, 91300 Massy, FRANCE

STUDIO TECNICO ZACCARELLI S.r.l.
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Rev	Date	Descrizione / *Description*	Disegnatore / *Draftsman*
R00	12/01/2024	First issue	C. LAHALLE

Oggetto: / *Drawing Title:*

Data sheet generator set

Elaborato a cura di:
Drawn by:

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Proprietà:
Owner:

DATA 4 ITALY S.P.A.
Piazza Eleonora Duse, 2
20122 MILANO

Progetto:
Project:

DATA CENTER

DC08.2

Scala: / *Scale:*

Tavola n°. / *Document n°.*

edificio / building	originatore / originator	disciplina / discipline	lotto di appalto / lot	tipo / type	piano / floor	numero / number
82	ENR	ME	13B	DTS	A00	29

Cat® 3516E

High Power Density (HPD) Diesel Generator Sets

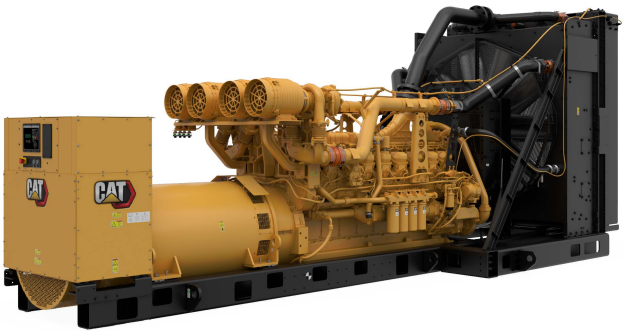


Image shown may not reflect actual configuration

Bore – mm (in)	170 (6.69)
Stroke – mm (in)	215 (8.46)
Displacement – L (in^3)	78.1 (4766)
Compression Ratio	14.0:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A5

Standby 50 Hz kVA (ekW)	Mission Critical 50 Hz kVA (ekW)	Prime 50 Hz kVA (ekW)	Emissions Performance
3500 (2800)	3500 (2800)	3175 (2540)	Low NOx
3250 (2600)	3250 (2600)	2950 (2360)	Low NOx (< 2000mg NOx)

Features

Cat® Diesel Engine

- Low NOx emissions
- Reliable performance proven in thousands of applications worldwide

Generator Set Package

- Accepts 100% block load in one step
- Meets NFPA 110 loading requirements
- Conforms to ISO 8528-5 G3 load acceptance requirements
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Alternators

- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat diesel engines

Cooling System

- Cooling systems available to operate in ambient temperatures up to 50°C (122°F)
- Tested to ensure proper generator set cooling

EMCP 4 Control Panels

- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements

Warranty

- 24 months/1000-hour warranty for standby ratings
- Extended service protection is available to provide extended coverage options

Worldwide Product Support

- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

Financing

- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

Standard and Optional Equipment

Engine

Air Cleaner
- ❑ Single element
- ❑ Dual element

Muffler
- ❑ Industrial grade (15 dB)
- ❑ Critical grade (25 dB)
- ❑ Hospital grade (35 dB)

Starting
- ❑ Standard batteries
- ❑ Oversized batteries
- ❑ Standard electric starter(s)
- ❑ Dual electric starter(s)
- ❑ Air starter(s)
- ❑ Jacket water heater

Alternator

Output voltage
- ❑ 400V ❑ 6900V
- ❑ 415V ❑ 10000V
- ❑ 3300V ❑ 10500V
- ❑ 6300V ❑ 11000V
- ❑ 6600V

Temperature Rise (over 40°C ambient)
- ❑ 150°C
- ❑ 125°C/130°C

Winding type
- ❑ Random wound
- ❑ Form wound

Excitation
- ❑ Internal excitation (IE)
- ❑ Permanent magnet (PM)

Attachments
- ❑ Anti-condensation heater
- ❑ Stator and bearing temperature monitoring and protection

Power Termination

Type
- ❑ Bus bar
- ❑ Circuit breaker
- ❑ 5000A ❑ 6300A
- ❑ UL ❑ IEC
- ❑ 3-pole ❑ 4-pole
- ❑ Manually operated
- ❑ Electrically operated

Trip Unit
- ❑ LSI ❑ LSI-G
- ❑ LSIG-P

Control System

Controller
- ❑ EMCP 4.2B
- ❑ EMCP 4.3
- ❑ EMCP 4.4

Attachments
- ❑ Local annunciator module
- ❑ Remote annunciator module
- ❑ Expansion I/O module
- ❑ Remote monitoring software

Charging

- ❑ Battery charger – 10A
- ❑ Battery charger – 20A
- ❑ Battery charger – 35A

Vibration Isolators

- ❑ Rubber
- ❑ Spring
- ❑ Seismic rated

Cat Connect

Connectivity
- ❑ Ethernet
- ❑ Cellular

Extended Service Options

Terms
- ❑ 2 year (prime)
- ❑ 3 year
- ❑ 5 year
- ❑ 10 year

Coverage
- ❑ Silver
- ❑ Gold
- ❑ Platinum
- ❑ Platinum Plus

Ancillary Equipment

- ❑ Automatic transfer switch (ATS)
- ❑ Paralleling switchgear
- ❑ Paralleling controls

Certifications

- ❑ IBC seismic certification
- ❑ EU & GB Declaration of Conformity
- ❑ EU & GB Declaration of Incorporation
- ❑ Eurasian Conformity (EAC)

Note: *Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.*

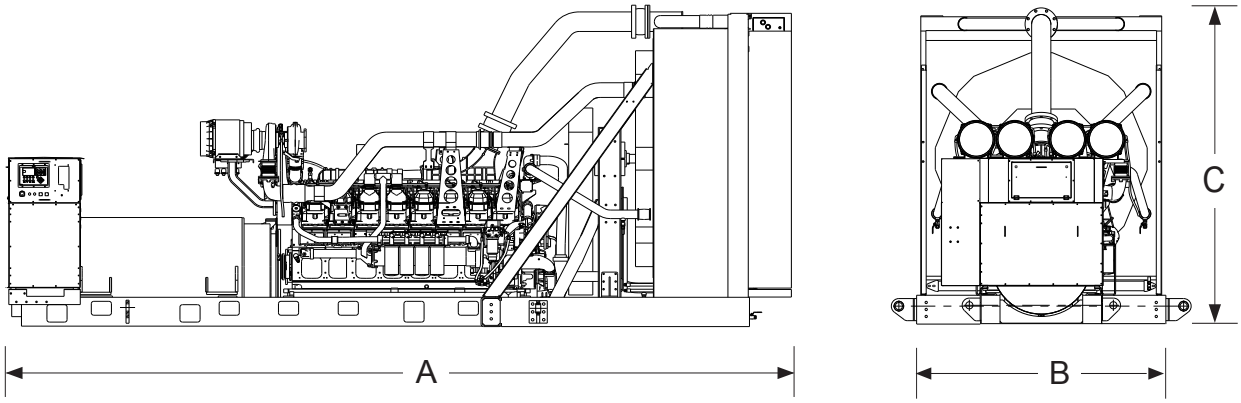
Package Performance

Performance	Standby		Mission Critical		Prime	
Engine Speed	1500 rpm		1500 rpm		1500 rpm	
Frequency	50 Hz		50 Hz		50 Hz	
Gen set power rating with fan	2600 ekW		2600 ekW		2360 ekW	
Gen set power rating with fan @ 0.8 power factor	3250 kVA		3250 kVA		2950 kVA	
Emissions	< 2000 mg NOx		< 2000 mg NOx		< 2000 mg NOx	
Performance number	EM4789-05		EM4793-04		EM4797-04	
Fuel Consumption						
100% load with fan – L/hr (gal/hr)	692.0	(182.8)	692.0	(182.8)	631.4	(166.8)
75% load with fan – L/hr (gal/hr)	538.5	(142.3)	538.5	(142.3)	499.6	(132.0)
50% load with fan – L/hr (gal/hr)	370.4	(97.9)	370.4	(97.9)	339.4	(89.6)
25% load with fan – L/hr (gal/hr)	206.9	(54.7)	206.9	(54.7)	192.3	(50.8)
Cooling System						
Radiator air flow restriction (system) – kPa (in. water)	0.12	(0.48)	0.12	(0.48)	0.12	(0.48)
Radiator air flow – m^3/min (cfm)	2878	(101635)	2878	(101635)	2878	(101635)
Engine coolant capacity – L (gal)	179.0	(47.3)	179.0	(47.3)	179.0	(47.3)
Radiator coolant capacity – L (gal)	202.0	(53.4)	202.0	(53.4)	202.0	(53.4)
Total coolant capacity – L (gal)	381.0	(100.7)	381.0	(100.7)	381.0	(100.7)
Inlet Air						
Combustion air inlet flow rate – m^3/min (cfm)	222.8	(7867.2)	222.8	(7867.2)	208.6	(7364.7)
Exhaust System						
Exhaust stack gas temperature – °C (°F)	492.2	(917.9)	492.2	(917.9)	491.2	(916.2)
Exhaust gas flow rate – m^3/min (cfm)	598.6	(21138.7)	598.6	(21138.7)	554.6	(19582.0)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	7.0	(28.1)	7.0	(28.1)	7.0	(28.1)
Heat Rejection						
Heat rejection to jacket water – kW (Btu/min)	893	(50811)	893	(50811)	821	(46693)
Heat rejection to exhaust (total) – kW (Btu/min)	2756	(156710)	2756	(156710)	2555	(145286)
Heat rejection to aftercooler – kW (Btu/min)	905	(51446)	905	(51446)	773	(43964)
Heat rejection to atmosphere from engine – kW (Btu/min)	168	(9567)	168	(9567)	163	(9254)
Heat rejection from alternator – kW (Btu/min)	113	(6426)	113	(6426)	88	(5010)
Emissions* (Nominal) - Full Load						
NOx mg/Nm^3 (g/hp-h)	1791.1	(3.94)	1791.1	(3.94)	1732.6	(3.83)
CO mg/Nm^3 (g/hp-h)	355.7	(0.79)	355.7	(0.79)	333.4	(0.75)
HC mg/Nm^3 (g/hp-h)	13.8	(0.04)	13.8	(0.04)	13.6	(0.04)
PM mg/Nm^3 (g/hp-h)	26.0	(0.07)	26.0	(0.07)	19.6	(0.05)
Emissions* (Potential Site Variation) - Full Load						
NOx mg/Nm^3 (g/hp-h)	1988.1	(4.38)	1988.1	(4.38)	1923.2	(4.25)
CO mg/Nm^3 (g/hp-h)	416.1	(0.93)	416.1	(0.93)	390.1	(0.87)
HC mg/Nm^3 (g/hp-h)	16.3	(0.04)	16.3	(0.04)	16.1	(0.04)
PM mg/Nm^3 (g/hp-h)	36.2	(0.10)	36.2	(0.10)	27.3	(0.07)

mg/Nm^3 levels are corrected to 5% O_2. Contact your local Cat dealer for further information

3516E Diesel Generator Sets
High Power Density (HPD)
Electric Power

Weights and Dimensions



Standby Rating kVA	Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
3500	7869 (309.8)	2640 (104.0)	3342 (131.6)	20 707 (45,651)
3250	7735 (304.5)	2640 (104.0)	3342 (131.6)	20 380 (44,930)

Note: *For reference only. Do not use for installation design.*
Contact your local Cat dealer for precise weights and dimensions.

Ratings Definitions

Standby
Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby rated ekW. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Mission Critical
Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical rated ekW. Typical peak demand up to 100% of rated ekW for up to 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Prime
Output available with varying load for an unlimited time. Average power output is 70% of the prime rated ekW. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Applicable Codes and Standards
AS 1359, IBC, IEC 60034-1, ISO 3046, ISO 8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU and facilitates compliance to NFPA 37, NFPA 70, NFPA 99, NFPA 110.

Note: Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

Data Center Applications
- All ratings Tier III/Tier IV compliant per Uptime Institute requirements.
- All ratings ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

Fuel Rates
Fuel consumption reported in accordance with ISO 3046-1, based on fuel oil of 35º API [16°C (60ºF)] gravity having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when used at 15ºC (59ºF) and weighing 850 g/liter (7.0936 lbs/U.S. gal.) All fuel consumption values refer to rated engine power.

www.cat.com/electricpower
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The International System of Units (SI) is used in this publication.

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3516 PGFL, 3516PGC8
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